TPU

PALLET TRUCK SCALE

TECHNICAL MANUAL

T-Scale

CE

Declaration of Conformity

Manufacturer	**TScale Electronics Mfg. (Kunshan) Co., Ltd**
Model	**TPR**
Report No	**GS109121102608**
EMC Directive	**2004/108/EC**
Applicable Standards	**EN 55022: 2006+A1:2007,** **EN 61000-3-3: 1995+A1: 2001+A2: 2005,** **EN 55024: 1998+A1:2001+A2: 2003**

Note: The declaration is only valid if the non-automatic weighing instrument was verified by the manufacturer or with a certificate of conformity issued by a notified body.

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All information contained within this publication was to the best of our knowledge timely, complete and accurate when issued. However, we are not responsible for misimpressions which may result form the reading of this material.

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SECTION 1 INTRODUCTION

The TPU series of pallet scale provides an accurate, fast weighing solution for pallet truck.

There are 4 series scales within the range, with 2 different fork size and optional built-in min printer.

All the keypads are mechanical switches and the displays are large easy to read liquid crystal type displays (LCD). The LCD's are supplied with a backlight.

All units include automatic zero tracking, weighing unit change, pretare, gross / net change, PLU memory that allows the individual weights to be stored and print report.

SECTION 2 SPECIFICATIONS

Model	TPU
Max Lifting weight	2000kg
Min. Fork Height	85mm
Max. fork height	200mm
Fork length	1135mm
Fork overall width	555mm/688mm
Individual fork width	180mm
Capacity	1000kg/2000kg
Division	0.5kg/1kg
External resolution	1/2,000
Internal resolution	1/600,000
Stabilisation Time	1 Seconds typical
Operating Temperature	0°C - 40°C / 32°F - 104°F
Power supply	External power switch, 12V 500mA, built-in rechargeable battery (lead acid, 6V/10Ah)
Calibration	Automatic External
Display	6 digits LCD digital display with 24mm high digits (LED backlight)
Interface	RS-232 Output Optional
Load cells	4 load cells

SECTION 3 INSTALLATION

3. 1 GENERAL INSTALLATION

Avoid extremes of temperature. Do not place in direct sunlight or near air conditioning vents.

Avoid high humidity that might cause condensation. Avoid direct contact with water. Do not spray or immerse the scales in water.

Keep the scales clean.

Do not stack material on the scales when they are not in use.

Please ascent the pallet before read weight data.

Please don't read data when pallet truck moving.

Please charge battery to full before use, see detail in SECTION 9.

3. 2 INSTALLATION OF TPU SERIES

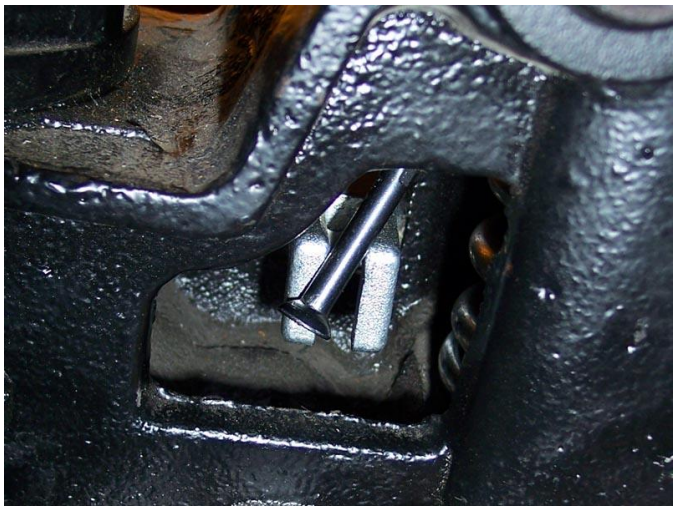
3.2.1 Install handle

The handle is packing separate from pallet truck.

1. Loosen the setting screw (140H) on the crank link (139H).
2. Remove three screws (H109) and three spring washers (H110) from the base (103).
3. Place the handle (H101) on the base (103), please note: Feed the rod and chain (H107) through the centre of the base (103) and axle (109).

4. Insert three screws (H109) with spring washers (H110) into the base (103). Then tighten them securely.
5. Raise the crank link (139H) and put the pin on rod and chain (H107)

into the groove of crank link (139H).



3.2.2 To adjust release device

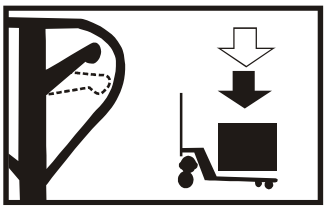
On the handle of the pallet truck, you will find the control lever (H106) which can be set in three positions

1. First tighten the setting screw (140H) on the crank link (139H) until the LOWER position function works.
2. If the forks elevate while pumping in the NEUTRAL position, turn the setting screw (140H) clockwise until pumping the handle does not raise the forks and the NEUTRAL position functions correctly.
3. If the forks descend while pumping in the NEUTRAL position, turn the setting screw (140H) counter-clockwise until the forks do not lower.
4. If the forks do not descend when the control lever (H106) is in the LOWER position, turn the setting screw (140H) clockwise until raising the control lever (H106) lowers the forks. Then check the NEUTRAL position as per item 2 and 3.
5. If the forks do not lift while pumping in the ASCENT position, turn the setting screw (140H) counter-clockwise until the forks elevate while pumping in the ASCENT position. Then check the NEUTRAL and LOWER position as per item 2, 3 and 4.

SECTION 4 PALLET TRUCK OPERATE

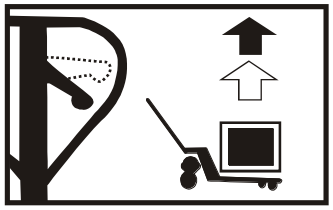
4. 1 CONTROL LEVER

the control lever (H106) which can be set in three positions



LOWER: to lower the forks

NEUTRAL: to move the load

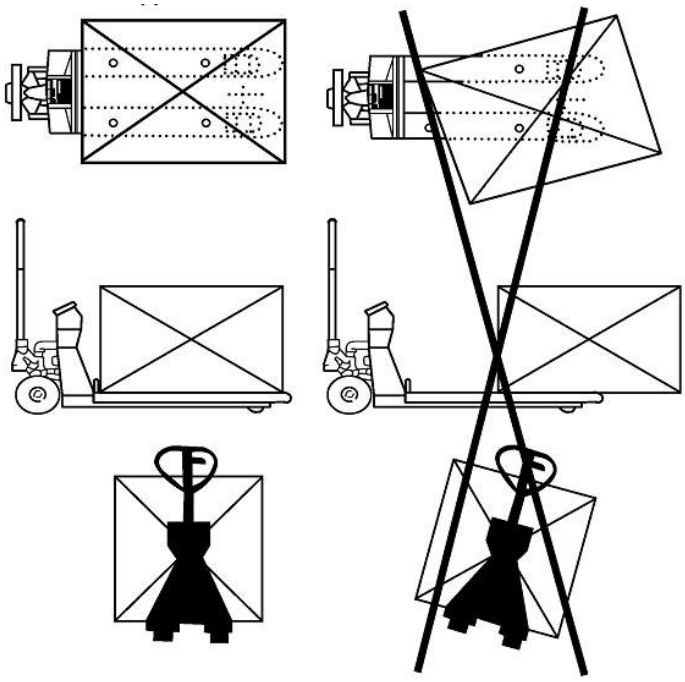


ASCENT: to raise the forks. After assembling the handle, you can adjust the three positions.

4.2 SAFETY NOTE

For safe operation of the truck, please read all warning signs and instructions here and on the truck before using this truck.

1. Do not operate the pallet truck unless you are familiar with it and have been trained or authorized to do so.
2. Do not operate the truck unless you have checked its condition. Give special attention to the wheels, the handle assembly, the forks, lift and the lower control.
3. Do not use the truck on sloping ground.
4. Never place any part of your body in the lifting mechanism or under the forks or load. Do not carry passengers.
5. The operator had better take on wear gloves and security shoes for labor protecting.
6. Do not handle unstable or loosely stacked loads.
7. Do not overload the truck.
8. Do not subject to unbalanced load, either side to side or along the length of the frame
9. The capacity of the truck



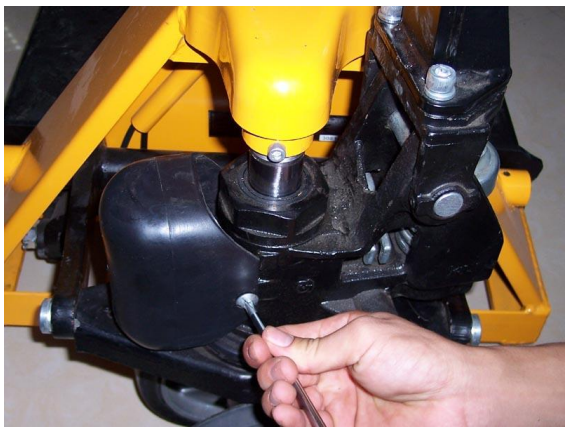
assumes an evenly distributed load with the centre of the load being at the halfway point of the length of the forks.
10. Make sure that length of the forks matches the length of the pallet.
11. Lower the forks to lowest height when the truck is not being used.
12. At other specific conditions or places, the operator should be carefully to operate the pallet truck.

4.3 MAINTENANCE

4.3.1 OIL

Please check the oil level every six months. The volume of oil is about 0.3lt.
Use the hydraulic type oil according to temperature scale below.

Temperature	Oil
-5℃~+45℃	L-HM68 Hydraulic oil (equivalent to ISO VG68)
-15℃~-5℃	L-HM46 Hydraulic oil (equivalent to ISO VG46)



4.3.2 HOW TO EXPEL AIR FROM THE PUMP UNIT

The air may come into the hydraulic because of transportation or pump in upset position. It can cause that forks do not elevate while pumping in the ASCENT position. The air can be banished in the following way: Let the control lever (H106) to the LOWER position, then move the handle (H1501) up and down for several times.

4.3.3 DAILY CHECK AND MAINTENANCE

Daily check of the pallet truck can limit wear as much as possible. Give special attention to the wheels (127, F116 or F117), the axles (F114, F118, F121, F122), the handle (H101), the forks (F110) and lift and lower control. The forks should be unloaded and lowered in the lowest position when the job is over.

4.3.4 LUBRICATION

Use motor oil or grease to lubricate all moveable parts.

SECTION 5 KEY DESCRIPTIONS

Zero
Set the zero point for all subsequent weighing. The display shows zero.
A secondary function is (ESC), of "Enter" key when setting parameters or other functions.

Tare
Tare the scale. Stores the current weight in memory as a tare value, subtracts the tare value from the weight and shows the results. This is the net weight. Entering a value using the keypad will store that value as the tare value.

A secondary function is↵, of incrementing the active digit when setting a value for parameters or other functions.

G/N
Press the key, the scale can to select gross weight or net weight after you tare a weight.

M+
Press this key for a short time to accumulation and take print out, press this key for a long time to clear all record.

CE
Press this key to select the weight unit. Move the active digit left when setting values for other functions.

PLU
Press this key for short time to take the PLU value. Press this key for long time to set the PLU value.

REPORT
Press this key short time to show the latest report and total, Press this key long time to enter the USB operation menu.

1~9
The number key, press these keys to enter the number.

.
Press this key short time to enter a point, press this key long time into the setting of date and time.

Product or
Press this key short time into the product number setting, Press this key long time

into backlight setting.

Cust or

Press this key short time into the customer number setting, Press this key long time into backlight setting.

ON/ OFF

Turn on or off the power.

SECTION 6 DISPLAYS

The LCD display will show a value and a unit to the right of the digits.
In addition there are labels for TARE, GROSS weight, Zero and for Low battery

SECTION 7 OPERATION

7.1 Zeroing the Display

You can press the **ZERO** key at any time to set the zero point from which all other weighing and counting is measured, within 4% of power up zero. This will usually only be necessary when the platform is empty. When the zero point is obtained the display will show the indicator for zero.

The scale has an automatic rezeroing function to account for minor drifting or accumulation of material on the platform. However you may need to press the **ZERO** key to rezero the scale if small amounts of weight are shown when the platform is empty.

7.2 Taring

Zero the scale by pressing the **ZERO** key if necessary. The zero indication will be on.

Place a container on the platform, a value for its weight will be displayed.

Press the **TARE** key to tare the scale. The weight that was displayed is stored as the tare value and that value is subtracted from the display, leaving zero on the display. The "TARE" indicator will be on. As product is added only the weight of the product will be shown. The scale could be tared a second time if another type of product was to be added to the first one. Again only the weight that is added after taring will be displayed.

When the container is removed a negative value will be shown. If the scale was tared just before removing the container this value is the gross weight of the container plus all product that was removed. The zero indication will also be on because the platform is back to the same condition it was when the **ZERO** key was last pressed.

7.3 USB Setting

Press REPORT key for a long time into USB operation mode, until display "U1 LOAD PLU", Press REPORT key to select.

NO.	Send way	Send data
U1	LOAD	PLU
U2	SAVE	PLU
U3	SAVE	REPORD

7.4 Accumulated Total

7.4.1 Accumulate note

Every time before do accumulate operate, please empty the fork (ZERO indicator on), and stable (STABLE indicator on). Accumulate operate only available current weight more than 20d (min. capacity)

7.4.2 Accumulate operate

After weighing a pallet with goods, display show weight data, after STABLE indicator on, press **M+** key, the weight displayed will be stored in memory.

The display will show "ACC 01" and then the total in memory for 2 seconds before returning to normal. If the optional min printer is installed the weight will be output to a printer.

Remove the weight, allowing the scale to return to zero and put a second weight on. Press the **M+** key, the display will show "ACC 02" and then the new total.

Continue until all weights have been added.

The scale can do accumulation operate 99 times at most.

7.4.4 Memory clear

To clear the accumulate data in memory, just press **M+** key a long time to clear accumulate data.

7.5 PLU Setting

The scale has two PLU modes, direct PLU and indirect PLU.

7.5.1 Direct PLU operation

Press number key for a long time to memory the PLU content. Press number key for a short time to display PLU.

7.5.2 Indirect PLU operation

Press **PLU** key for a long time to set PLU content. Press **PLU** key, then press number key to display indirect PLU.

7.5.3 Memory PLU operation

Press **PRODUCT** key to set product number. Press PLU key into set the PLU number, then press **TARE** key for a long time into pretare setting, this setting can set the tare value.

7.6 Print Report

Printer use internal EPM250 printer.

Print format can divide customer list, product list and all report list print. Press **M+** key print currently weight report.

7.6.1 "Printer 1" format Print

Select "Printer 1" format, then press **M+** key print all weight report of product and customer.

Print format is:

2010/09/15 11:30
No. 01
99 99
NET 37.0
TARE 20.0

7.6.2 "printer 2" format Print

Select "printer 2" in the parameter, then press **M+** key print all accumulation weight report.

Print format is:

2010/09/15 11:05

PLU:00	PRODUCT:00		CUST:00
No.	NET	TARE	TOTAL
01	57.0	0.0	57.0
02	57.0	0.0	114.0

7.6.3 Print All Report

Press **REPORT** key print all weighing report.

Print format is:

DATA: 2000:00:00 TIME: 00:00

ALL RECORD

PRODUCT	CUST	NET
99	99	49.0
		2010/09/10 14:09
99	99	49.0
		2010/09/10 14:09
88	88	49.5
		2010/09/10 14:10

SECTION 8 PARAMETERS

The scale has 6 parameters that can be set by the user plus a method of entering the calibration section.

Press the **TARE** key at the check weighing mode.

The display will show "P in ", enter the password "000", will display "F0 CAL". Pressing the **REPORT** key will cycle through the next function. Press the **G/N** key will back to late function.

FUNCTION MENU SETTINGS

FUNCTION	DESCRIPTION
F0 CAL	Calibration，press TARE key display "unload", place the pan when the stable indicator display, press the TARE key will display the weight value, press REPORT key to turn next and press the number keys enter the value, put the same value weights on the pan, until the stable indicator display, press the TARE key to finish.
F 1 rES	Set the division value. Press the REPORT key to select increase (1/2/5/10/20/50/100), press the TARE key to confirm.
F2 U nt	Sets the displayed unit (Kg, lb), you can press TARE key to set ON or OFF, press ZERO key to confirm.
F3 dESC	Setting weight decimal, Press the REPORT key to select decimal (0, 0.0, 0.00, 0.000), press the TARE key to confirm.
F4 CAP	Set the capacity, press REPORT to turn next value and press the number key enter the value, press TARE key to confirm.
F5 2Ero	Press **TARE** key to set the auto zero value.
F6 rE2E	Press **TARE** key to set the rezero value.
F7 inPS	Press **TARE** key to display internal count value
F8 Prt	Set the Print format, press **REPORT** key to select "Pr int 1" and "Pr int 2".
F9 Gru	Set the gravity.
F 10 bd	Set the Baud rate, press **REPORT** key to select 600/1300/2400/4800/9600

SECTION 9 BATTERY OPERATION

The weighing indicator can be operated from the battery if desired. The battery life is approximately 35 hours.

When the battery needs charging a symbol on the weight display will turn on. The battery should be charged when the symbol is on. The scale will still operate for about 10 hours after which it will automatically switch off to protect the battery.

To charge the battery simply plug into the mains power. The scale does not need to be turned on.

The battery should be charged for 12 hours for full capacity.

In the LCD display has a battery indication to indicate the status of battery charging. When the scale is plugged into the mains power the internal battery will be charged. When turn on the indication, if the battery indication is full then the battery has a full charge. If it is half then the battery is nearly discharged and empty indicates the battery should be charged.

As the battery is used it may fail to hold a full charge. If the battery life becomes unacceptable then contact your distributor.

SECTION 10 RS-232 OUTPUT

The RW Series of scales can be ordered with an optional RS-232 output.

10.1 Basic information
Specifications:

RS-232 output of weighing data
ASCII code
8 data bits
No Parity
Baud rate from 600bps to 9600bps

10. 2 normal print out
Data Format for normal weighing operations, parts counting or recalling of totals from memory will all be different. Examples follow:

Normal Output

Date and Time	The scale will be set date and time
S/N	The number increments every time a new value is stored in memory
GW	GW for gross weight, NT for net weight and a unit of weight

When parts counted the weight, unit weight and count will be printed.

Date:	The scale hasn't printed
Time: 00:00	The scale will be set time
Gross wt: 0.149KG	GW for gross weight, NT for net weight and a unit of weight
Unit wt: 7.4257G	The average piece weight computed by the scale
Quantity : 20PCS	The number of parts counted
<If>	
<If>	

When recalling the Total weight stored in the accumulation memory the output format is:

**********	A line of stars is shown
<lf>	Includes 1 line feed
Date:	
Time: 00:00	
Total No: 3	Times of the accumulation memory
Total wt.: 0.447KG	Weight of the accumulation memory
**********	

10. 3 continuously output protocol
con1: weighing mode

		,			–/␣								k	g	CR	LF

-HEADER1-- | -HEADER2- | --- WEIGHT DATA -- | -WEIGHT UNIT- | TERMINATOR

con1: counting mode

P	C	S	:								␣	p	c	s	CR	LF

- QTY - | -QTY UNIT-

HEADER1: ST=STABLE， US=UNSTABLE

HEADER2: NT=NET， GS=GROSS

Con2:

Header0	Header1	Header2	Header3	Weight1	Weight2	Weight3	Weight4	Weight5	Weight6	Tare1	Tare2	Tare3	Tare4	Tare5	Tare6	Terminator1	Terminator2

Header0=02H

Header1 follow decimal point

Decimal point=0, header1=22H

Decimal point=1, header1=23H

Decimal point=2, header1=24H

Decimal point=3, header1=25H

Decimal point=4, header1=26H

Header2 follow weigh status, default value=20H

If in net mode (tare value not 0), header2=header2|01H

If gross weight "-", header2=header2|02H

If overload or gross weight "-", header2=header2|04H

If unstable, header2=header2|08H

If weighing unit=kg, header2=header2|10H

Header3 follow weighing unit

If weighing unit=g, header3=21H

If weighing unit=oz, header3=23H

Weight1~weight6: weighing data

Tare1~tare6: tare value

Terminator1: 0DH

Terminator2: 0AH

Con3:

Header0	Header1	Weight1	Weight2	Weight3	Weight4	Weight5	Weight6	Weight7	Unit1	Unit2	Status	Terminator1	Terminator2

Header0=01H

Header1 follow weight "+" or "-"

When weight "+", header1="+", when weight "-", header="-"

Weight1~weight7: weight data (include decimal point)

Unit1~unit2: weight unit

Status: when stable, status=0, when unstable, status=1

Terminator1: 0DH

Terminator2: 0AH

SECTION 11 CALIBRATION

Press the **TARE** key at the check weighing mode, display shows "P in ", enter password "000" into Parameter, the display show "FO CAL", press **TARE** key display "UnLoAd", then press the **TARE** key to enter, the display shows: "UnLoAd", Remove any weight from the platform. After stable indicator on, press the **TARE** key.

Then the display will show the last calibration weight used. If this is correct, you can continue by pressing the **TARE** key. If it is not correct use the **REPORT** key to move, and press **G/N** key to change the calibration weight value. When will be correct press the **TARE** key.

Then display will show "LoAd". Place the calibration weight on the scale. After stable, press the **TARE** key. Then the calibration has completed.

SECTION 12 ERROR CODES

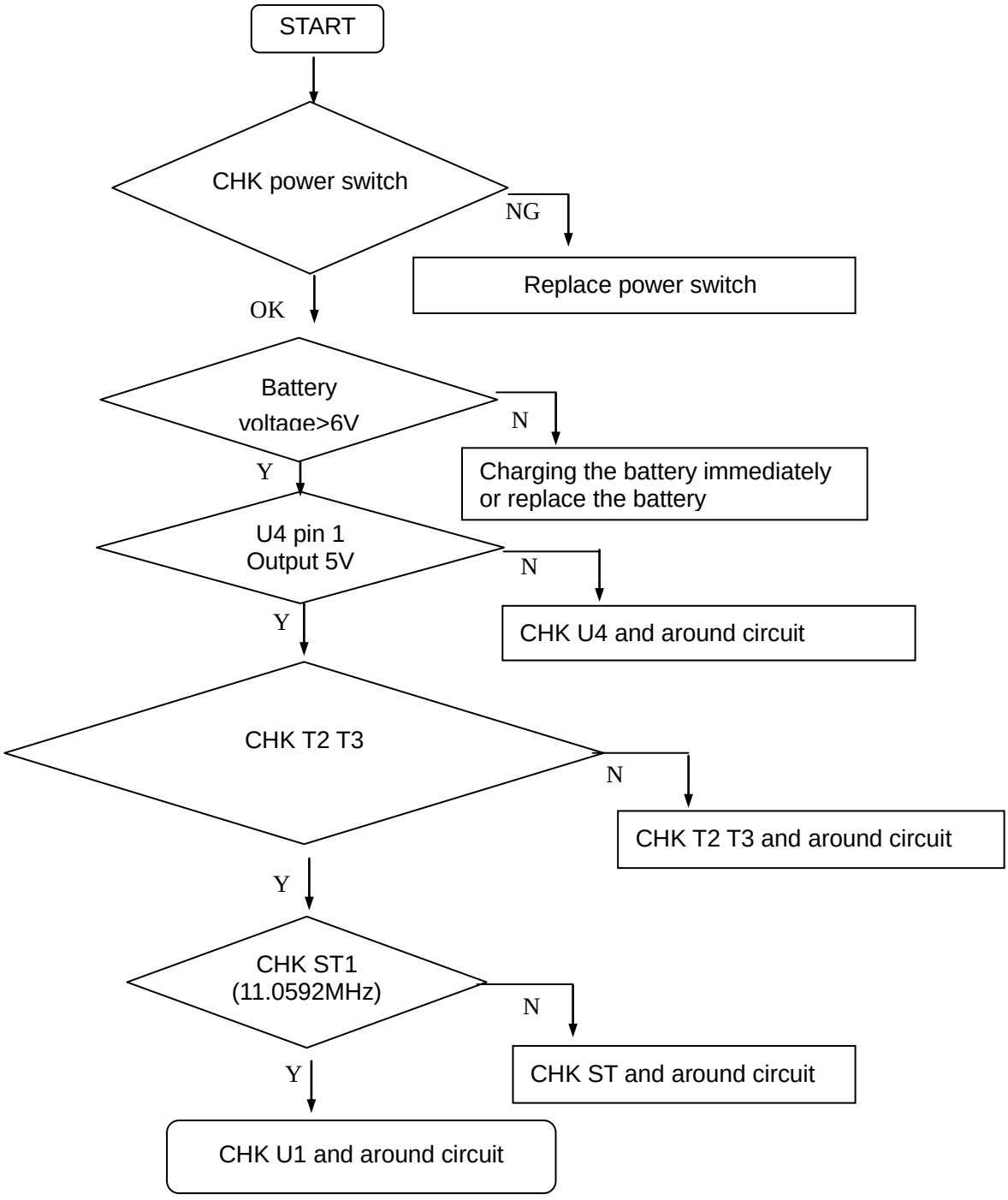
ERROR CODES	DESCRIPTION	RESOLUTION
- - - - -	Over range	Remove weight from the scale. If the problem persists contact your dealer or Taiwan scale for assistance.
Err 1	Date Setting Error	Enter date using correct format and reasonable values. Format: yy:mm:dd
Err 2	Time Setting Error	Enter time using correct format and reasonable values. Format: hh:mm:ss
Err 4	Zero Setting Error	The scale was outside the normal zero setting range either when it was turned on or when the ZERO key was pressed. Remove weight from the scale and try again. Use the TARE key to set the display to zero value. If the problem persists contact your dealer or Taiwan scale for assistance.
Err 6	A/D out of range	The values from the A/D converter are outside the normal range. Remove weight from the scale if overloaded; make sure the pan is attached. Indicates the load cell or the electronics may be faulty. If the problem persist contact your dealer

SECTION 13 TROUBLE SELF CHECKING

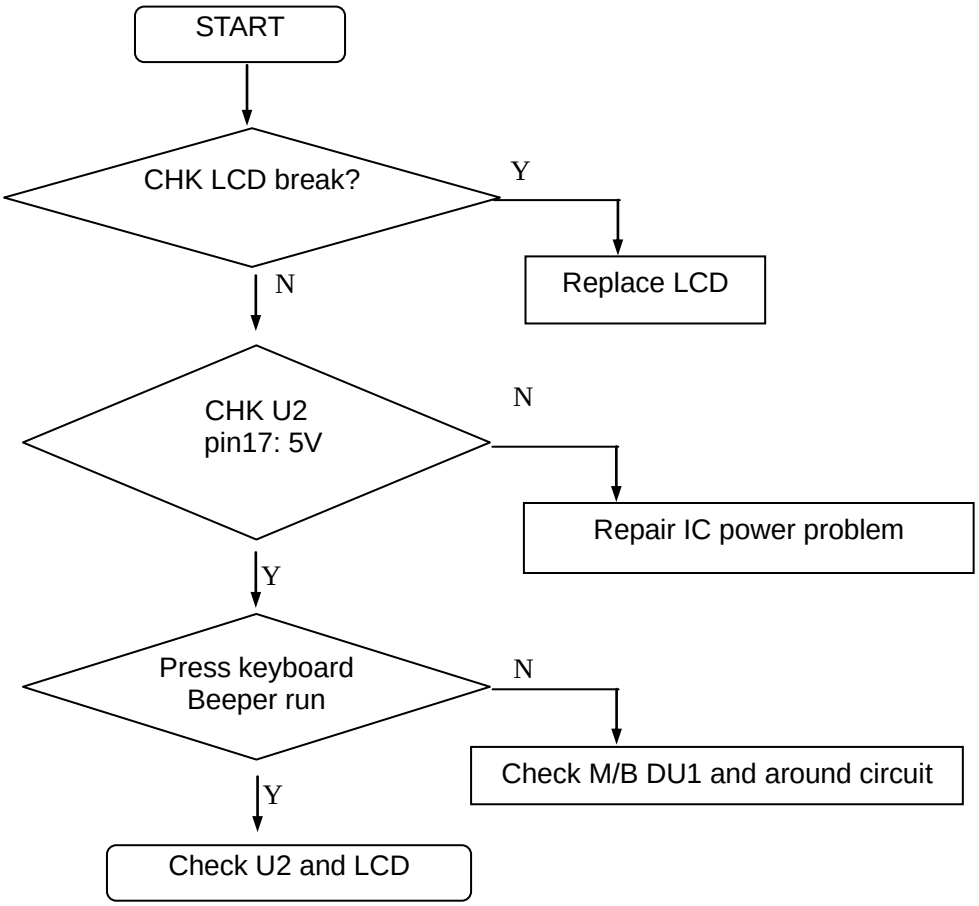
Problem	Possible cause	Common solutions
Display is blank, No turn on test	Mains power is turned off Power supply not plugged in Power supply faulty Internal battery not charged Display turned off	Check power is going to the scale and switch is on. Verify the voltage going to the scale matches the power supply labels on the power module or scale.
Display blank after turn on test, Error message Display is locked	Pan not installed Unstable weight Load cell damaged Mechanics damaged	Check the pans are installed correctly. Try turning the scale on again.
OL or ---- appears on display	Maximum capacity exceeded Load Cell or mechanics damaged Power supply faulty	Check the pans are installed correctly. Try turning the scale on again.
---- or NULL displayed	Weight on scale below permissible limit Pan has been removed Pan support not seated properly Power supply faulty Load Cell or mechanics damaged	Check the pans are installed correctly. Try pressing Zero key. Try turning the scale on again.
Display is unstable	Drafts or air currents Obstruction under pan Sample is moving (animal weighing) Vibrations through table Temperature changed dramatically Power supply faulty	Verify the scale is in a acceptable location and on a good table. Verify the power supply is correct for the scale.
Weight value incorrect	Calibration error, Recalibrate Linearity error, set Linearity Unit calibrated with inaccurate weight Balance not level Obstruction between sample and cover Wrong unit of weight displayed	Calibrate again, paying special attention to the mass used, the stability of the scale, and the weighing units required. If linearity can be set by the user it will be described in the user manual. Check pan is installed correctly. Verify installation is acceptable.
Cannot use Full Capacity	Over load Stops hitting pan support or hitting bottom of load cell Shipping screw not removed if applicable Electronic problem on A/D Parameters set incorrectly Load Cell or mechanics Damaged	Look for obstruction under pan, shipping screws, and verify pan installation. Check the weighing units used.
Not Linear	Overload stops hitting too soon Load cell or mechanics damaged A/D damaged	Look for obstruction under pan, shipping screws, and verify pan installation. If linearity can be set by the user it will be described in the user manual.
Off Center Loading error	Adjust mechanics Overload Stops not correct Load Cell damaged	Look for obstruction under pan, shipping screws, and verify pan installation.
Battery will not charge	Mains voltage not present or too low Charging circuit failure Battery Failure	Verify the batteries are rechargeable types. Check power supply voltage is correct.

SECTIOIN 14 TROUBLE SHOOTING

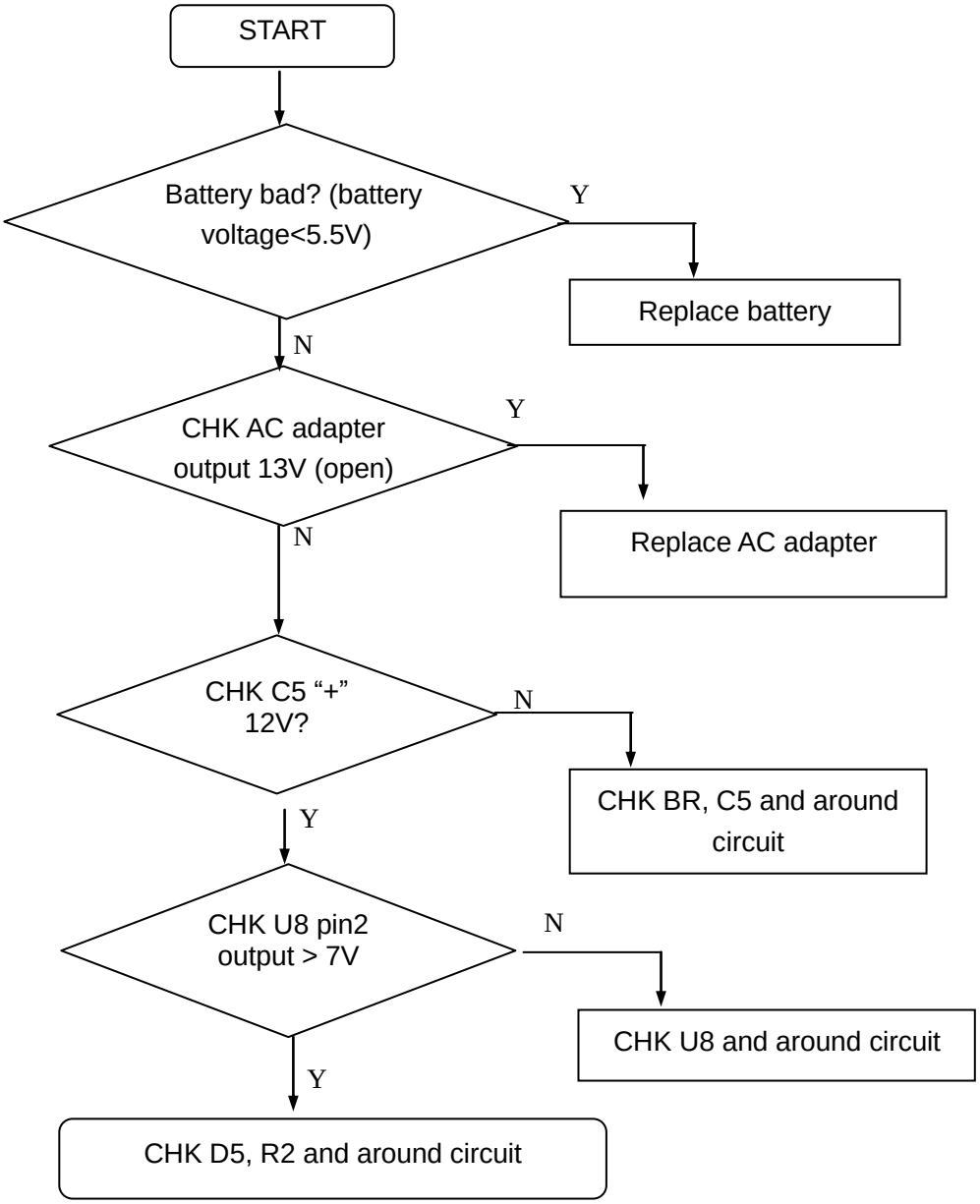
14.1 No power



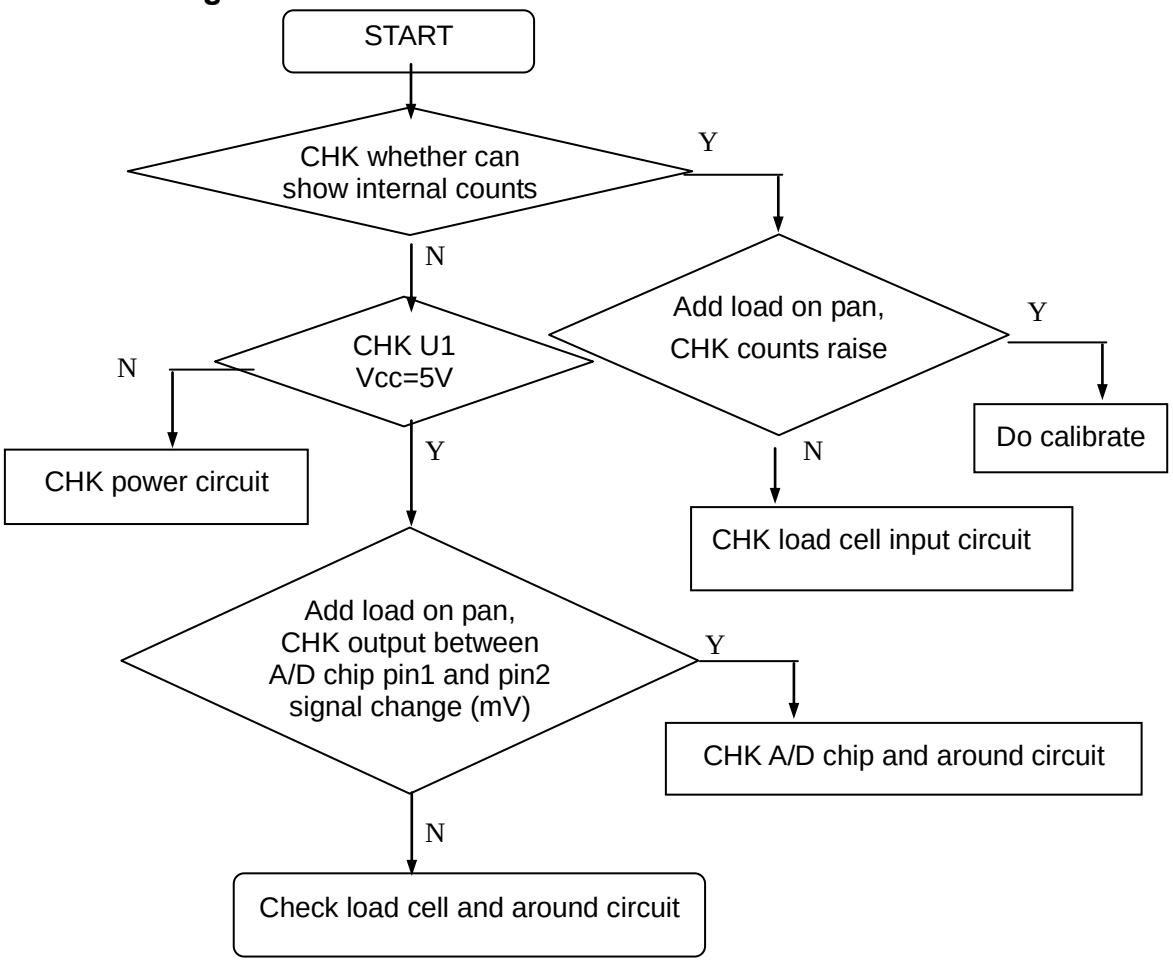
14.2 No display



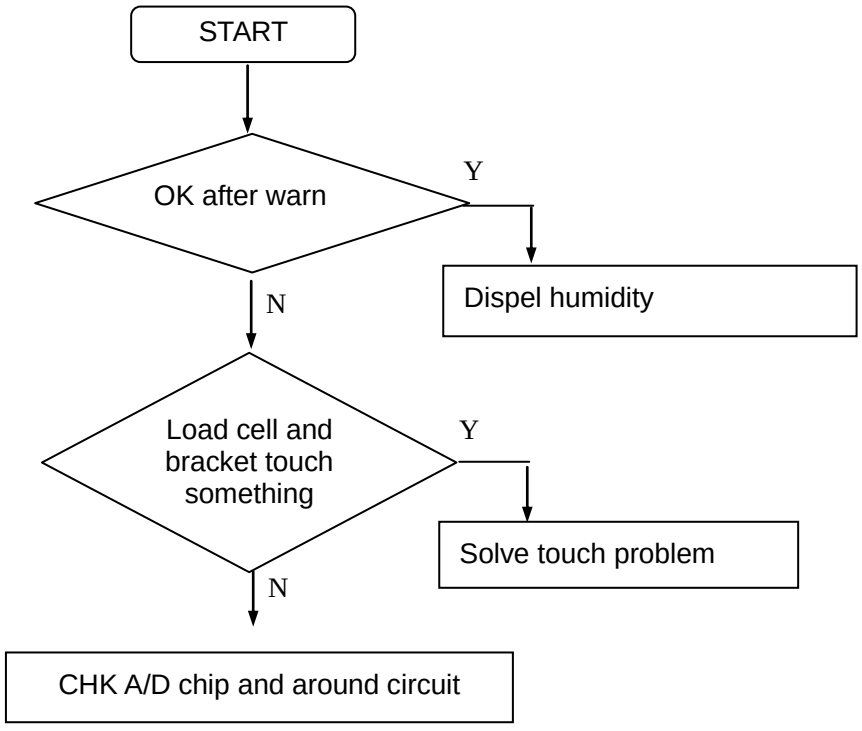
14.3 Can't charge the battery



14.4 Can't weigh

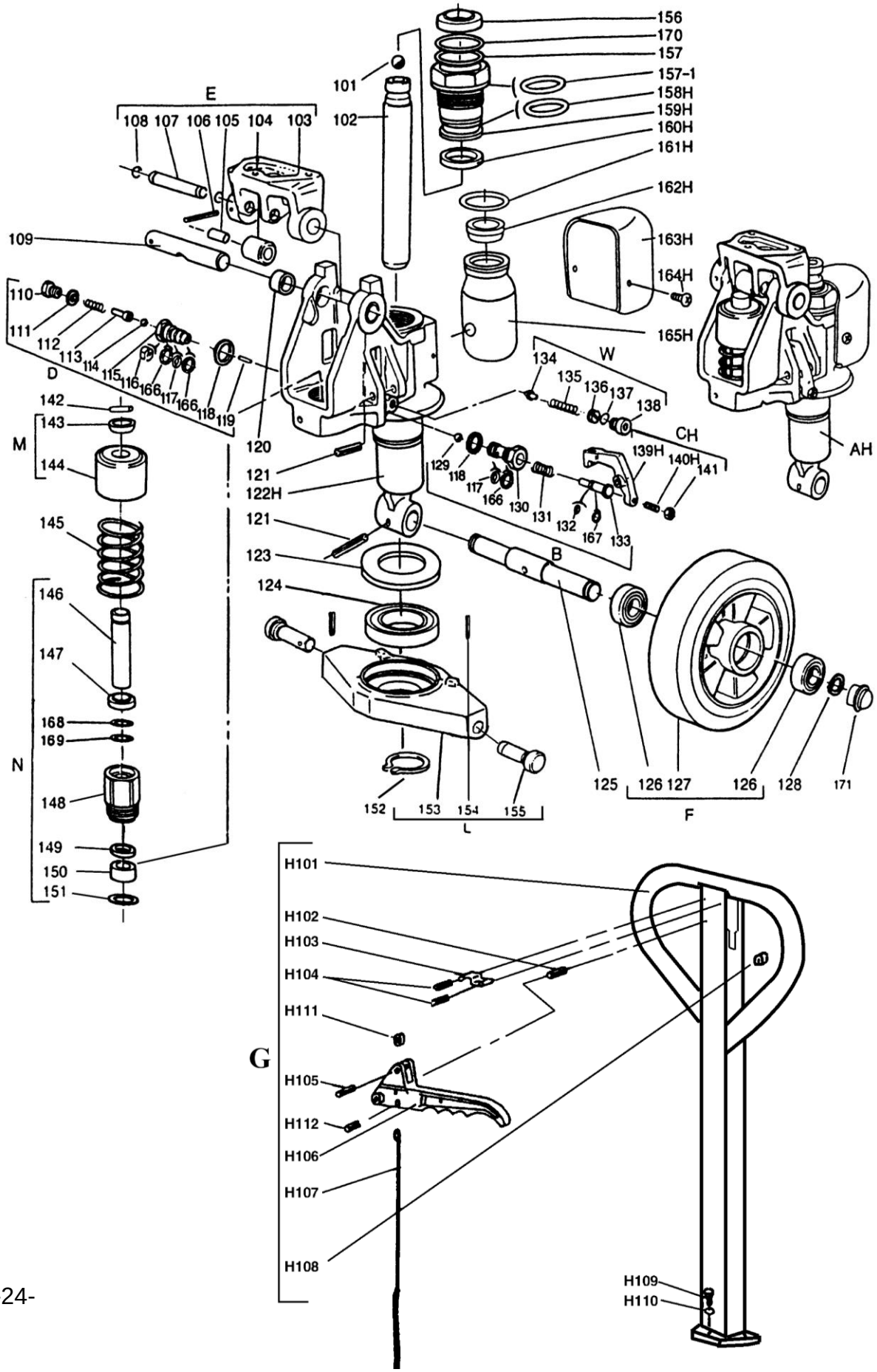


14.5 Unstable



SECTIOIN 15 APENDIX

15.1 PARTS DRAWIN

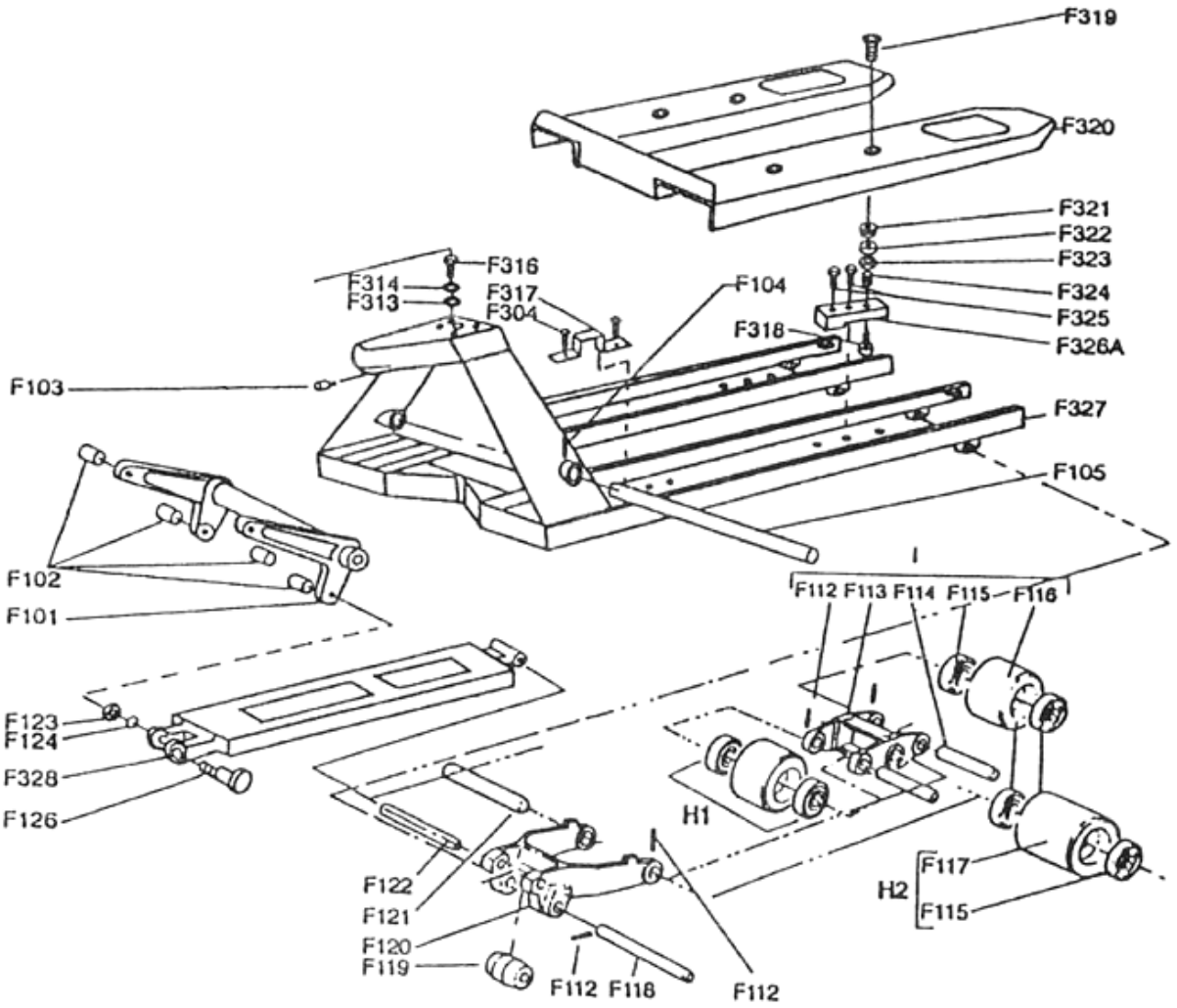


Parts List of Pump Assembly

Part No.	Description	Qty	Part No.	Description	Qty
101	Steel ball	1	136	Pressure regulating screw	1
102	Rod	1	137	O-ring	1
103	Base	1	138	Screw	1
104	Steel roller	1	139H	Crank link	1
105	Bushing	1	140H	Setting screw	1
106	Pin	1	141	Nut	1
107	Shaft	2	142	Parallel pin	1
108	Retaining ring	1	143	Retaining cover	1
109	Axle	1	144	Spring cover	1
110	Screw	1	145	Spring	1
111	Washer	1	146	Pump rod	1
112	Spring	1	147	Dust proof ring	1
113	Pressure rod	1	148	Pump cylinder	1
114	Steel ball	1	149	Seal ring	1
115	Pressure valve body	1	150	Nylon bushing	1
116	Split ring	1	151	Red copper washer	1
117	O-ring	2	152	Retaining ring	1
118	Washer	2	153	Rhombus plate	1
119	Steel needle	1	154	Pin	2
120	Bushing	2	155	Dowel pin	2
121	Pin	2	156	Dust proof ring	1
122H	Pump body	1	157	O-ring	1
123	Dust cover	1	157-1	O-ring	1
124	Bearing	1	158H	O-ring	1
125	Steering wheel axle	1	159H	Cylinder	1
126	Bearing	4	160H	Seal ring	1
127A	Steering wheel, Nylon	2	161H	O-ring	1
127B	Steering wheel, Polyurethane	2	162H	Filler plug	1
127C	Steering wheel, Poly/Nylon	2	163H	Reservoir cover	1
127D	Steering wheel, Rubber	2	164H	Screw	2
128	Retaining ring	2	165H	Reservoir	1
129	Steel ball	1	166	Retainer	3
130	Discharge valve body	1	167	Retainer	1
131	Spring	1	168	Retainer	1
132	O-ring	1	169	O-ring	1
133	Discharge valve shaft	1	170	Retainer	1
134	Valve taper core	1	171	Bearing Cover	2
135	Spring	1			

Parts List of Handle

Part No.	Description	Qty	Part No.	Description	Qty
H101	Handle	1	H107	Rod and chain	1
H102	Spring pin	1	H108	Rubber cushion	1
H103	Spring leaf	1	H109	Screw	3
H104	Spring pin	2	H110	Spring washer	3
H105	Spring pin	1	H111	Nylon roller	1
H106	Control lever	1	H112	Spring pin	1



Parts List of Frame

No.	Description	Q'ty	**No.**	Description	Q'ty
F301	Signal wire	1	F101	Torsion tube assembly	1
F304	Screw	8	F102	Bushing	4
F317	Wire clip	2	F103	Hexagon socket screw	1
F318	Screw	4	F104	Spring pin	1
F319	Fix screw	4	F105	Torsion tube shaft	1
F320S	Cover plate assembly (555mm)	1	F112	Spring pin	8/4*
F320L	Cover plate assembly (690mm)	1	F113	H-link	2
F321	Convex spherical washer	4	F114	Load roller axle	4
F322	Concave spherical washer	4	F115	Bearing	8/4*
F323	Nut	4	F116B	Poly load roller, tandem type	4
F324	Set screw	4	F117B	Poly load roller, single type	2
F325	Bolt	8	F118	Axle	2
F326A	Load cell	4	F119	Roller	2
F327S	Frame (555mm)	1	F120	Wheel frame	2
F327L	Frame (690mm)	1	F121	H-link axle	2
F328	Pull rod	2	F122	Pull rod axle	2
			F123	Nut	2
			F124	Spring washer	2
			F126	Eccentric pin	2

Note*: Quantity for tandem roller is 8, for single roller is 4.

15.2 NUMERIC AND ALPHABETIC CHARACTERS DISPLAYED ON LCD

0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
A	B	C	D	E	F	G	H	I	J
A	b	C	d	E	F	G	H	ı	J
K	L	M	N	O	P	Q	R	S	T
K	L	n	n	o	P	q	r	S	t
U	V	W	X	Y	Z				
U	v	w	X	y	Z				